

AMENDMENTS TO THE CLAIMS

Amend claims 2, 3, 4, 5, 6, 7, 9, 15, 17, and 20 and add new claims 21 and 22 as follows, and cancel claims 1, 10-14, 16 and 19.

1 Claim 1 (Cancelled).

1 2. (Currently amended) The liquid separator according
2 to claim ~~1~~ 6, wherein said inlet compartment includes a back
3 wall-barrier interposed between said first filter element and
4 said sample outlet port, said ~~barrier~~back wall of said inlet
5 compartment defining said upper outlet, said first filter
6 element overlying said back wall of said inlet compartment.

1 3. (Currently amended) The liquid separator according
2 to claim 2, wherein said liquid trap filter chamber includes a
3 cover which encloses said first filter element within said
4 inlet compartment.

1 4. (Currently amended) The liquid separator according
2 to claim 3, wherein said cover includes at least one concave
3 filter engaging surface engaging said first filter element to
4 trap said first filter element between said cover and said
5 ~~barrier~~ back wall of said inlet compartment.

1 5. (Currently amended) The liquid separator according
2 to claim ~~1~~ 6, wherein said first filter element comprises a
3 membrane bearing a polytetrafluoroethylene laminate.

1 6. (Currently amended) ~~The liquid separator according to~~
2 ~~claim 1, wherein~~ A liquid separator for a gas analyzer, said
3 liquid separator comprising:

4 a closed container including a sample inlet port, a
5 sample outlet port, and a low pressure port;

6 said container defining a liquid collection chamber and a
7 liquid trap filter chamber, said liquid trap filter chamber
8 including an inlet compartment interposed between said sample
9 inlet port and said sample outlet port for receiving a gas
10 sample introduced into said sample inlet port, said inlet
11 compartment having an upper outlet communicated with said
12 sample outlet port and a lower outlet communicated with said
13 liquid collection chamber;

14 a first liquid trap filter element, said first filter
15 element being a thin, generally flat member contained and
16 supported within said inlet compartment, interposed between
17 said sample inlet port and said sample outlet port for
18 separating liquid from the gas sample, liquid separated from
19 the gas sample passing through said lower outlet to said
20 collection chamber, said first filter element oriented
21 vertically within said inlet compartment to maximize active
22 surface area of said first filter element;

23 said liquid trap filter chamber ~~includes~~ further including
24 an outlet compartment interposed between said collection
25 chamber and said low pressure port, said outlet compartment
26 having an inlet communicated with said collection chamber and
27 an outlet communicated with said low pressure port[[,]]; and

28 a second liquid trap filter element, said second filter
29 element being a thin, generally flat member that is separate
30 from said first filter element, said second filter element
31 contained ~~in~~ and supported within said outlet compartment
32 interposed between said inlet and said outlet of said outlet
33 compartment, said second filter element oriented vertically
34 within said outlet compartment to maximize active surface area
35 of said second filter element.

1 7. (Currently amended) The liquid separator according
2 to claim 6, wherein said outlet compartment includes a back
3 wall-barrier interposed between said second filter element and
4 said low pressure port, said ~~barrier~~ back wall of said outlet
5 compartment defining said outlet-port of said outlet

6 compartment, said second filter element overlying said back
7 wall of said outlet compartment.

1 8. (Original) The liquid separator according to claim
2 6, wherein said second filter element comprises a membrane
3 bearing a polytetrafluoroethylene laminate.

1 9. (Currently amended) The liquid separator according
2 to claim ~~4~~6, and including a self-sealing filter in at least
3 one of said sample outlet port and said low pressure port.

1 Claims 10-14 (Cancelled).

1 15. (Currently amended) The liquid separator according
2 to claim ~~10~~17, including a self-sealing filter in at least one
3 of said sample outlet port and said low pressure port.

1 Claim 16 (Cancelled).

1 17. (Currently amended) [~~The liquid separator according~~
2 ~~to claim 16, including~~] A liquid separator for a gas analyzer,
3 said liquid separator comprising:

4 a sample inlet port;

5 a sample outlet port;

6 an inlet compartment having an upper outlet communicated
7 with said sample outlet port and a lower outlet communicated
8 with a collection chamber, said inlet compartment having an
9 inlet front wall and an inlet back wall extending generally
10 parallel to said inlet front wall, said inlet back wall
11 defining said upper outlet;

12 a first gas permeable, liquid impermeable filter element,
13 said first filter element being a thin, generally flat member
14 contained and supported within said inlet compartment
15 interposed between and extending parallel to said inlet front
16 wall and said inlet back wall and interposed between said
17 sample inlet port and said upper outlet for separating liquid
18 from the gas sample;

19 a support web on said inlet back wall spacing said first
20 filter element forwardly of said inlet back wall;
21 a liquid collection chamber for receiving liquid passed
22 through said lower outlet of said inlet compartment;
23 an outlet compartment interposed between said collection
24 chamber and ~~said~~ a low pressure outlet, said outlet
25 compartment having an inlet communicated with said collection
26 chamber and an outlet communicated with said low pressure
27 port, said outlet compartment having an outlet front wall and
28 an outlet back wall extending generally parallel to said
29 outlet front wall, said outlet back wall defining said upper
30 outlet; and
31 a second gas permeable, liquid impermeable filter element
32 said second filter element being a thin, generally flat member
33 contained in and supported within said outlet ~~trap~~-filter
34 compartment interposed between and extending parallel to said
35 outlet front wall and said outlet back wall and interposed
36 between said inlet and said outlet of said outlet ~~trap~~-filter
37 compartment; and
38 a support web on said outlet back wall spacing said
39 second filter element forwardly of said outlet back wall.

1 18. (Original) The liquid separator according to claim
2 17, wherein said first-mentioned and said second filter
3 elements each comprises a membrane bearing a
4 polytetrafluoroethylene laminate.

1 Claim 19 (Cancelled).

1 20. (Currently amended) A liquid separator for a gas
2 analyzer, said liquid separator comprising:
3 a sample inlet port;
4 a sample outlet port;
5 a liquid collection chamber;
6 an inlet compartment for receiving a gas sample
7 introduced into said sample inlet port, said inlet compartment
8 having an upper outlet communicated with said sample outlet

9 port and a lower outlet communicated with said collection
10 chamber, said inlet compartment having an inlet back wall
11 defining said upper outlet;
12 a first gas permeable, liquid impermeable filter element
13 contained ~~in~~ within said inlet compartment, said first filter
14 element being a generally flat member overlying said inlet
15 back wall and interposed between said sample inlet port and
16 said upper outlet for separating liquid from the gas sample;
17 a support web on said inlet back wall supporting said
18 first filter element within said inlet compartment spaced
19 forwardly of said inlet back wall;
20 a liquid ~~collection chamber receiving liquid~~ separated
21 from said gas sample being passed through said lower outlet of
22 said inlet trap filter compartment to said collection chamber;
23 a low pressure port;
24 an outlet compartment interposed between said collection
25 chamber and said low pressure port, said outlet compartment
26 having an inlet communicated with said collection chamber and
27 an outlet communicated with said low pressure port, said
28 outlet compartment having an outlet back wall defining said
29 outlet of said outlet compartment; and
30 a second gas permeable, liquid impermeable filter element
31 contained ~~in~~ within said outlet compartment, said first filter
32 element being a generally flat member overlying said outlet
33 back wall and interposed between said inlet and said outlet of
34 said outlet compartment; and
35 a support web on said outlet back wall supporting said
36 second filter element within said outlet compartment spaced
37 forwardly of said outlet back wall.

1 21. (New) A liquid separator for a gas analyzer, said
2 liquid separator comprising:
3 a sample inlet port;
4 a sample outlet port;
5 an inlet compartment for receiving a gas sample
6 introduced into said sample inlet port, said inlet compartment

7 having an upper outlet communicated with said sample outlet
8 port and a lower outlet, said inlet compartment having an
9 inlet back wall defining said upper outlet;
10 a first gas permeable, liquid impermeable filter element
11 contained within said inlet compartment, said first filter
12 element being a flat member generally circular in shape and
13 overlying said inlet back wall, interposed between said sample
14 inlet port and said upper outlet for separating liquid from
15 the gas sample;
16 a support web on said inlet back wall supporting said
17 first filter element within said inlet compartment spaced
18 forwardly of said inlet back wall, providing an active area
19 through which gas can flow to said upper outlet;
20 a liquid collection chamber receiving liquid passed
21 through said lower outlet of said inlet trap filter
22 compartment;
23 a low pressure port;
24 an outlet compartment interposed between said collection
25 chamber and said low pressure port, said outlet compartment
26 having an inlet communicated with said collection chamber and
27 a low pressure outlet communicated with said low pressure
28 port, said outlet compartment having an outlet back wall
29 defining said low pressure outlet; and
30 a second gas permeable, liquid impermeable filter element
31 contained within said outlet compartment, said second filter
32 element being a flat member generally circular in shape and
33 overlying said outlet back wall, interposed between said inlet
34 and said low pressure outlet of said outlet compartment; and
35 a support web on said outlet back wall supporting said
36 second filter element within said outlet compartment spaced
37 forwardly of said outlet back wall, providing an active area
38 through which gas can flow to said low pressure outlet.

1 22. (New) A liquid separator for a gas analyzer, said
2 liquid separator comprising:
3 a sample inlet port;

4 a sample outlet port;
5 a liquid trap filter chamber including an inlet
6 compartment interposed between said sample inlet port and said
7 sample outlet port for receiving a gas sample introduced into
8 said sample inlet port, said inlet compartment having an upper
9 outlet communicated with said sample outlet port and a lower
10 outlet;
11 a first gas permeable, liquid impermeable filter element
12 contained within said inlet compartment interposed between
13 said sample inlet port and said upper outlet for separating
14 liquid from the gas sample;
15 a liquid collection chamber receiving liquid passed
16 through said lower outlet of said inlet trap filter
17 compartment;
18 a low pressure port;
19 an outlet compartment interposed between said collection
20 chamber and said low pressure port, said outlet compartment
21 having an inlet communicated with said collection chamber and
22 an outlet communicated with said low pressure port;
23 a second gas permeable, liquid impermeable filter element
24 contained within said outlet compartment interposed between
25 said inlet and said outlet of said outlet compartment; and
26 a baffle located within said collection chamber, said
27 baffle extending downwardly from a lower surface of said
28 liquid trap filter chamber, located between said lower outlet
29 of said inlet compartment and said inlet of said outlet
30 compartment, providing a barrier between said lower outlet of
31 said inlet compartment and said inlet of said outlet
32 compartment along said lower surface of said liquid collection
33 chamber.